

ARCnet Not Getting
Older But Faster

Clients, Servers And OOP

ARCNETplus Is Twice As Fast As Ethernet

by Geoff Korth

Currently one of the three major PC LAN technologies, standard ARCNET, with some 20% of the market worldwide, has become a de facto standard. With the announcement recently of ARCNETplus, it's

"ARCNET's topology is extremely flexible and forgiving."

become a technology whose performance numbers are better than those of Ethernet and Token Ring, and should be an ANSI standard by the time the first ARCNETplus product is on the market.

Standard ARCNET's Edge

Just what's behind the enduring popularity of standard 2.5 Mbps ARCNET? For one thing, according to installers, it's very difficult to hook up incorrectly. ARCNET's topology is extremely flexible and forgiving. With only a few simple interconnect rules, it's exceptionally easy to configure. An ARCNET network can be wired in a star or bus layout. These simple wiring layouts can easily be combined into a complex, freeform topology which includes coax, twisted pair and fiber optic products and provides great flexibility for the network designer.

For another, the ARCNET controller chip enables IT's to join and leave the network without disrupting network activity. Thus, coupled with ARCNET's

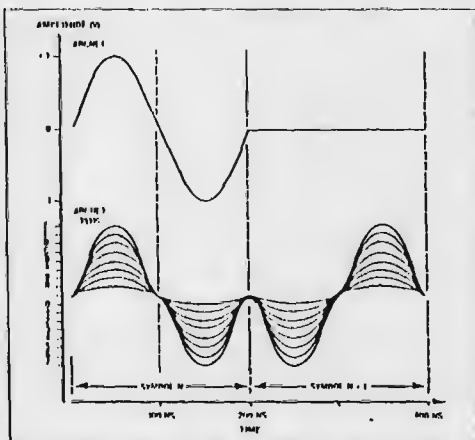


Fig 1a ARCNETplus, four binary bits (16 hex digital symbols) fill the same space as a single ARCNET bit. ARCNET's 200 us slot period is also used for ARCNETplus transmission.

flexible topology, makes it easy to add or relocate PC's at will.

Further reason for ARCNET's popularity is that it's a token-

*"Both 20 Mbps
ARCNETplus and 2.5
Mbps ARCNET can
coexist on the same
cable."*

passing (right to transmit) protocol. In addition to guaranteeing equal access to the network for all PC's, this protocol is deterministic, enhancing reliability in time critical appli-

cations. And as more PC's are added to the network, throughput degrades only in small predictable increments. By comparison, network loading on Ethernet and Starlan, which both employ CSMA/CD (Carrier Sense Multiple Access with Collision Detection), increases the frequency of collisions, degrading network performance exponentially.

Enter ARCNETplus

Counter arguments that ARCNET is slow and limited to small packet sizes have been shattered by a recent announcement by Datapoint, SMC and NCR. Just announced 20 Mbps ARCNETplus, an enhancement of 2.5 Mbps ARCNET, has substantially increased maximum

size up to 4096 bytes. Additionally, basic transmission rate and number of nodes supported on a single network have been increased (2047 for ARCNETplus, 255 for standard ARCNET, and 1023 for Ethernet). Despite the changes, ARCNET-

plus retains all of the desirable features of standard ARCNET. It has the same look and feel, still employs token passing, supports coax, twisted pair and fiber cabling, and offers the same reliability, ease of

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